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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/596,340

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Claude Debroche

40651

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7590

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EXAMINER

HANNAHER, CONSTANTINE

ART UNIT

PAPER NUMBER

2884

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/596,340

**Applicant(s)**

DEBROCHE ET AL.

**Examiner**

Constantine Hannaher

**Art Unit**

2884

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 27-52 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 27-52 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-85/86)  
Paper No(s)/Mail Date 20060808
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### **Priority**

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in France on December 11, 2003. It is noted, however, that applicant has not filed a certified copy of the French application as required by 35 U.S.C. 119(b). The designated Office does not ask the applicant to furnish it with a copy (PCT Rule 17.2(a)) but the Examiner notes that the international application has been published (WO 2005/059523A1 on June 30, 2005) and the priority document is not available from the digital library at the wipo.int site.<sup>1</sup>

### **Information Disclosure Statement**

2. As set forth in MPEP § 609:

37 CFR 1.98(b) requires that each item of information in an IDS be identified properly. U.S. patents must be identified by the inventor, patent number, and issue date. U.S. patent application publications must be identified by the applicant, patent application publication number, and publication date. U.S. applications must be identified by the inventor, the eight digit application number (the two digit series code and the six digit serial number), and the filing date. If a U.S. application being listed in an IDS has been issued as a patent, the applicant should list the patent in the IDS instead of the application. Each foreign patent or published foreign patent application must be identified by the country or patent office which issued the patent or published the application, an appropriate document number, and the publication date indicated on the patent or published application. Each publication must be identified by publisher, author (if any), title, relevant pages of the publication, date and place of publication. The date of publication supplied must include at least the month and year of publication, except that the year of publication (without the month) will be accepted if the applicant points out in the information disclosure statement that the year of publication is sufficiently earlier than the effective U.S. filing date and any foreign priority date so that the particular month of publication is not in issue. The place of publication refers to the name of the journal, magazine, or other publication in which the information being submitted was published.

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<sup>1</sup> [www.wipo.int/pctdb/en/wo.jsp?wo=2005059523&IA=WO2005059523&DISPLAY=DOCS](http://www.wipo.int/pctdb/en/wo.jsp?wo=2005059523&IA=WO2005059523&DISPLAY=DOCS)

### **Oath/Declaration**

3. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

It is not plainly and legibly written either by a typewriter or machine printer in permanent dark ink or its equivalent, as required under 37 CFR 1.52(a)(1)(iv).

The inclusion of bibliographic data like the residence information supplied by hand by inventor DEBROCHE on a declaration filed subsequent to an application data sheet (as filed June 9, 2006) is worthless in view of 37 CFR 1.76(d)(4).

### **Drawings**

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the shape of the second part of the cavity as a conic section must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be

labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR

1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

#### **Specification**

5. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as “means” and “said,” should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, “The disclosure concerns,” “The disclosure defined by this invention,” “The disclosure describes,” etc.

Note the use of “The invention relates to an” a phrase which can be implied. The requirement for brevity in the abstract is a part of the PCT rules.

#### **Claim Rejections - 35 USC § 112**

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 31, 34, 35, 48, 49, 50, 52, and 51 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 31 recites the limitation “the ellipsoid corresponding to the ellipsoid shape” in lines 4-5. There is insufficient antecedent basis for this limitation in the claim. Claim 27 establishes a *cavity* which has an ellipsoidal part.

Claim 34 recites the limitation “it” in line 2. There is insufficient antecedent basis for this limitation in the claim. Claims 27 and 28 and 32 establish a plurality of structures.

Claim 35 recites the limitation “it” in line 2. There is insufficient antecedent basis for this limitation in the claim. Claim 27 establishes a plurality of structures.

Claim 48 recites the limitation “it” in line 2. There is insufficient antecedent basis for this limitation in the claim. Claim 27 establishes a plurality of structures.

Claim 50 recites the limitation “it” in line 2. There is insufficient antecedent basis for this limitation in the claim. Claim 27 establishes a plurality of structures.

Claim 51 recites the limitation “it” in line 2. There is insufficient antecedent basis for this limitation in the claim. Claim 27 establishes a plurality of structures.

The balance of the claims is rejected on the basis of their dependence.

**Claim Rejections - 35 USC § 102**

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 27-29, 31, 36, 45, and 48-50 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Salzman *et al.* (US003946239A).

With respect to independent claim 27, Salzman *et al.* discloses an optical device (FIG. 1) including a cavity of the recited type (column 2, line 67) with a first focus 20 and a second focus 22 (column 3, line 7), a means for presenting 24 of the recited type, a means for transporting (FIG. 2) of the recited type, a light reflecting wall of the recited type in view of layer 48 (column 3, lines 29-30), and a means for collecting of the recited type (column 3, lines 47-48) at the second focus 22.

With respect to dependent claim 28, the means for presenting in the device of Salzman *et al.* is capable as recited (column 3, lines 11-14).

With respect to dependent claim 29, the paths in the device of Salzman *et al.* are as recited (FIGs. 1 and 2, column 3, lines 23-25).

With respect to dependent claim 31, the paths in the device of Salzman *et al.* are as recited (FIGs. 1 and 2).

With respect to dependent claim 36, the means for presenting in the device of Salzman *et al.* includes a case **36, 40** matching the shape of the part (FIG. 1). The medium is housed at the first focus **20** as already explained.

With respect to dependent claim 45, the means for collecting in the device of Salzman *et al.* includes an opening (which plug **55** fills) of the recited type.

With respect to dependent claim 48, as best understood, the device of Salzman *et al.* comprises at least two parts **12, 14** which are assembled to use the device.

With respect to dependent claim 49, one of the parts **12** in the device of Salzman *et al.* includes an ellipsoidal part (FIG. 1) and the shape of the other part **14** is at least one of the recited species (FIG. 1). See also column 3, line 29.

With respect to dependent claim 50, as best understood, the device of Salzman *et al.* is made of a metallic material in view of the lining of the cross-section for metal (also note gold **48**).

#### **Claim Rejections - 35 USC § 103**

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary

skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
12. Claims 30, 32-34, 44, 37, 38, 46, 47, 52, and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Salzman *et al.* (US003946239A).

With respect to dependent claim 30, although Salzman *et al.* illustrates an orthogonal relationship between the path of the medium and the path of the light, it does not take more than ordinary skill in the art at the time the invention was made to understand the tradeoff between the fine timing possible with the orthogonal relationship and the increased cross-section with a non-orthogonal relationship of paths, and so it would have been obvious to modify the device of Salzman *et al.* to establish a non-orthogonal relationship between the two paths in order to permit a slightly greater extent of excitation for the medium.

With respect to dependent claim 32, although Salzman *et al.* describes a transparent fluid sheath to circulate the medium, it does not take more than ordinary skill in the art at the time the invention was made to desire to investigate other materials, and so it would have been obvious to modify the device of Salzman *et al.* to use a transparent tube to circulate a medium through the first focus 20 in order to, for example, avoid contamination of the flow chamber.



With respect to dependent claim 33, the device of Salzman *et al.* comprises an injector tube and a collector tube (FIG. 1). The length of these tubes is a choice within the ordinary skill in the art in view of the desired performance of the fluid sheath and the desire to place the cells being investigated at the first focus **20**.

With respect to dependent claim 34, as best understood, the device of Salzman *et al.* provides the recited orifices (FIG. 1).

With respect to dependent claim 44, the cavity in the device of Salzman *et al.* is filled as recited (column 3, lines 19-21), the means for collecting comprises an opening (which plug **55** fills) provided with an optical element (illustrated as cone **56**) having the requisite axis. Salzman *et al.* need not mention the transparency of the “desirable liquid medium” filling the flow chamber and it would have been obvious to specify transparency as recited in view of the desire to excite the cells and detect their emission. The choice of light conducting medium **56** is one within the ordinary skill in the art (column 3, lines 51-54) and a concave lens would have been obvious to one of ordinary skill in the art at the time the invention was made in view of the desired performance (column 5, lines 3-17).

With respect to dependent claim 37, the material for the case **36, 40** in the device of Salzman *et al.* is a choice within the ordinary skill in the art at the time the invention was made. A transparent case would have been obvious, for example, to afford alignment of the laser path through first focus **20**. That the “reflecting wall is the wall of said part” is already a requirement of claim 1, since the only “part” is the ellipsoidal part of the cavity.

With respect to dependent claim 38, to the extent that the case **36, 40** in the device of Salzman *et al.* matches the shape of the ellipsoidal part of the cavity (FIG. 1) it would have been

obvious to one of ordinary skill in the art to make it of a transparent material forming a reflecting wall in order to secure the maximum reflection to second focus 22.

With respect to dependent claim 46, the means for collecting in the device of Salzman *et al.* is provided with an optical element (illustrated as cone 56) having the requisite axis. The choice of light conducting medium 56 is one within the ordinary skill in the art (column 3, lines 51-54) and at least one lens would have been obvious to one of ordinary skill in the art at the time the invention was made in view of the desired performance (column 5, lines 3-17).

With respect to dependent claim 47, the light conducting medium 56 in the device of Salzman *et al.* is placed in a reception housing 55 and is fixed to the device by a support element (threads 60). It would not take more than ordinary skill in the art at the time the invention was made to maintain this arrangement when modifying the light guide 56 to be at least one lens as such a housing and support are routine.

With respect to dependent claim 52, as best understood, the metallic material 48 of the device of Salzman *et al.* reflects light at the wavelength of the emitted light. The choice of metallic material is one within the ordinary skill in the art (column 3, lines 32-35). It would have been obvious to specify that the metallic material absorb light of the excitation light beam to reduce cross-talk with the emitted light and relieve the heat burden on downstream optical elements.

With respect to dependent claim 51, as best understood, the reflecting wall of the cavity in the device of Salzman *et al.* is formed of a metallic material 48 (gold). Although the device 10 of Salzman *et al.* is lined in cross-section for metal, it would not have taken more than ordinary skill in the art at the time the invention was made to specify plastic for the material of the blocks 12, 14 depending on the desired performance (column 3, lines 59-63) and the efficiency of the seals and the desired weight and the like.

13. Claims 39-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Salzman *et al.* (US003946239A) as applied to claim 27 above, and further in view of Sapp *et al.* (US005430541A).

With respect to dependent claim 39, although Salzman *et al.* uses tubes to deliver and extract the sheathed cells, the use of a support including a medium of analysis and inserted in an optical device is known, as shown by Sapp *et al.* (FIG. 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Salzman *et al.* to present the medium on a support at first focus **20** because the substitution of one art-recognized equivalent for another needs no motivation (column 4, lines 24-30).

With respect to dependent claim 40, Sapp *et al.* suggests that the support includes at least one housing **11** to contain the medium.

With respect to dependent claim 41, Sapp *et al.* suggests a support which includes at least one channel **11** internal to the support to transport the medium. It would have been obvious from the transparency of the capillary (column 6, lines 19-20) that the presentation of the medium in an internal channel to the first focus **20** in the device of Salzman *et al.* would be in a transparent part of the support.

With respect to dependent claim 42, it would have been obvious to one of ordinary skill in the art to identify the support suggested by the combination of Salzman *et al.* and Sapp *et al.* as a “lab on a chip” in view of the desire to investigate different components in a routine manner.

With respect to dependent claim 43, see the rejection of claim 39.

#### **Response to Submission(s)**

14. The amendment filed June 9, 2006 has been entered.

### **Conclusion**

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Oetliker *et al.* (US005127729A) discloses an optical device (*e.g.*, FIG. 4).

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Constantine Hannaher whose telephone number is (571) 272-2437. The examiner can normally be reached on Monday-Friday with flexible hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**/Constantine Hannaher/  
Primary Examiner, Art Unit 2884**